

Examiner's convenience, also attached hereto is an **Appendix B** showing all pending claims as amended remaining in this application.

Declaration:

The Declaration filed March 18, 2002 in response to the Notice to File Missing Parts was objected to by the Examiner because the date of Applicant's signature was missing. Applicant respectfully requests that the Examiner accept a substitute Declaration, filed herewith, that has been properly signed and dated by Applicant.

Rejections under 35 U.S.C. §102(e):

Claims 1-12, 15 and 16 stand rejected under 35 U.S.C. §102(e) as being anticipated by Rakowski (PCT Publication No. WO 01/78851). This rejection is respectfully traversed; reconsideration and withdrawal is requested.

In particular, Applicant respectfully points out that there is no teaching whatsoever in Rakowski of an artificial turf comprising a substrate and a plurality of fibers protruding from the substrate, wherein:

the fibers include a chromogen (as required to anticipate claim 1 and claims 2-8 that depend therefrom);

the fibers respond to an increase in temperature by changing from a first color to a second color (as required to anticipate claim 9 and claim 12 that depends therefrom);

the fibers respond to an elastic elongation by changing from a first color to a second color (as required to anticipate claim 10 and claim 12 that depends therefrom); or

the fibers respond to a change in chemical environment by changing from a first color to a second color (as required to anticipate claim 11 and claim 12 that depends therefrom).

The device that is taught by Rakowski includes a *thermochromic* material (i.e., a liquid crystal that changes color in response to a change in temperature, e.g., see page 7, lines 19-26). There is no teaching in Rakowski of chromogens that change color in response to an elastic elongation (i.e., stress chromic chromogens, see page 5, line 21 to page 7, line 4 of the present application) or a change in chemical environment (i.e., chemically chromic chromogens, see page 10, line 9 to page 11, line 3 of the present application).

(1) Further, as discussed in the Abstract and throughout Rakowski (e.g., see page 2, lines 14-16; page 3, lines 8-9 and lines 11-14; page 4, lines 18-20; page 7, lines 19-29; claim 1; etc.), Rakowski's thermochromic material is comprised within a so-called "pressure disclosing layer" (reference # 3 in Figure 1) of the device. There is no teaching that the thermochromic material should be included in any other layer of the device. There is also no teaching that the pressure disclosing layer 3 should be in the form of fibers that protrude from a substrate. Instead, as illustrated in Figure 1, layer 3 is sandwiched *within* the multi-layer device. In particular, layer 3 sits *above* a "compressible layer" (reference # 4), a "heating layer" (reference # 5) and a "support layer" (reference # 6); and *below* a "stabilization layer" (reference # 2) and a "protective coating layer" (reference # 1), see also page 3, lines 6-10. When pressure is applied at a particular point on the protective coating layer 1, this pressure is transferred through to a corresponding point in the pressure disclosing layer 3 and thence onto the heating layer 5 below (e.g., see page 5, lines 23-25). Localized heat transfer between the heating layer 5 and the pressure disclosing layer 3 at the point of "contact" then leads to a localized color change in the pressure disclosing layer 3. The stabilization layer 2 provides a stable surface for application of the pressure disclosing layer 3 (e.g., see page 4, lines 10-16). The protective coating layer 1 protects the pressure disclosing layer 3 from water, UV radiation, heat and provides mechanical strength (e.g., see page 3, lines 28-30). The compressible layer 4 provides a mechanical shield between the pressure disclosing layer 3 and the heating layer below (e.g., see page 5, lines 4-8). Finally, the support layer 6 provides mechanical support and strength and insulates the heating layer 5 from the ambient environment (e.g., see page 6, lines 15-19).

In the Office Action, the Examiner refers Applicant to page 4, lines 4-8 of Rakowski and states that the fibers that are taught therein include a chromogen. Applicant respectfully submits that this is not the case; indeed, page 4, lines 4-8 of Rakowski reads:

Where the appearance or texture of grass is required, layer 1 may be supplemented by the application of a layer of sprayed adhesive followed by the spraying of plastic fibres, electrostatically charged, for instance, 2 to 6mm in length. These fibers will be coloured or clear, as appropriate. This layer will vary according to application.

The fibers serve to provide the appearance or texture of grass. They may be colored (presumably green to enhance the appearance of grass) or clear and protrude from the top layer 1 that sits above and protects layer 3 of the device (see also page 7, lines 4-9). As mentioned above, the only chromogen that is taught by Rakowski is a thermochromic material that is comprised within layer 3. There is no teaching in Rakowski that any other layer (including layer 1) and/or these fibers should include the thermochromic material of layer 3 let alone any other chromogen. The top layer 1 is included to protect the internal layers of the device from the environment, not to exhibit a color change – the internal layers 3, 4 and 5 serve that purpose. This is evidenced throughout Rakowski and most clearly on page 6, lines 26-30 (referring to Figure 2, wherein layer 1 is given reference # 11):

The protective layer 11 may be formed from any suitable plastics material that preferably offers the required qualities of transparency or translucency (for observability of the colour change), stability against the effects of UV radiation, chemicals or such environmental effects as rainfall, and mechanical strength (to ensure adequate durability).

In order to anticipate a claim, the reference must teach every element of the claim. MPEP § 2131. As discussed above, Rakowski lacks a number of elements that are present in independent claims 1 and 9-11 (and hence also in dependent claims 2-8 and 12). Accordingly, Applicant respectfully requests that the rejection of claims 1-12 be withdrawn (claims 15 and 16 have been canceled).

Applicant further notes that Rakowski is not even prior-art to those pending claims that find support in provisional patent application U.S. Serial No. 60/250,894 (the '894 provisional application). Indeed, the effective 102(e) date of Rakowski is April 12, 2001 (i.e., the international filing date). The present application claims priority to the '894 provisional application that was filed nearly five months prior to this date (i.e., on November 29, 2000). Pending claims 1, 3, 5, 7, 10 and 12 are fully supported by the specification of the '894 provisional application and are entitled to the benefit of the provisional filing date. Accordingly, Rakowski is not even available as prior art for at least these claims.

does not disclose
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Rejections under 35 U.S.C. §103(a):

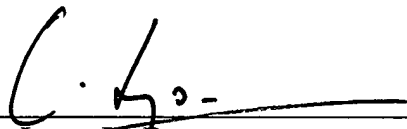
Claims 13 and 14 stand rejected under 35 U.S.C. §103(a) as being anticipated by Rakowski in view of Johnson (U.S. Patent No. 5,394,824). This rejection is respectfully traversed; reconsideration and withdrawal is requested.

The deficiencies of Rakowski that were described in the previous section are not remedied by Johnson. Indeed, the combined references do not teach an artificial turf comprising a substrate and a plurality of fibers protruding from the substrate, wherein the fibers include a chromogen (as required to render obvious claim 1 and hence claims 13 and 14 that depend therefrom). The Examiner relies on Johnson solely to teach certain elements added in dependent claims 13 and 14, specifically the inclusion of indicia for marking the boundaries of a sports field. Since at least one limitation of claims 13 and 14 is not even taught or suggested by the combined references, the rejection of claims 13-14 under 35 U.S.C. §103(a) cannot stand. Applicant therefore respectfully requests that the Examiner also withdraw this rejection.

Conclusion

Based on the arguments presented above, it is submitted that the pending claims are allowable over the art of record. Applicant would like to thank the Examiner for her thoughtful comments and careful consideration of the case. If it is believed that a telephone conversation would help expedite prosecution of this case, or if any further information is required, the Examiner is invited to contact the undersigned at (617) 248-4793. Please charge any fees that may be required, or credit any overpayment, to our Deposit Account No. 03-1721.

Respectfully submitted,


Charles Lyon, Ph.D.
Agent for Applicant
Limited Recognition Under 37 CFR §10.9(b)

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Dated: May 5, 2003

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<u>May 5, 2003</u> Date	<u>Linda M. Amato</u> Signature
<u>Linda M. Amato</u> Typed or Printed Name of person signing certificate	



APPENDIX A

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

Claims 15 and 16 have been canceled.

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BEFORE THE OFFICE OF ENROLLMENT AND DISCIPLINE
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Expires: June 3, 2003

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Director of Enrollment and Discipline

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